



Mycotoxins in small grains and maize: Old problems, new challenges

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Abstract:

This paper reviews the challenges relating to chronic contamination of small grains and maize with deoxynivalenol and related compounds, fumonisin and the use of ensiled cereals in cool dairy areas. Uncertainties in the tolerable daily intakes for deoxynivalenol and fumonisin are discussed as they have the potential to affect current regulatory limits. In addition, climate change is resulting in more extreme rainfall and drought events which favour formation of deoxynivalenol and fumonisin, respectively. The development and refinement of models for predicting mycotoxin accumulation from weather data will become an essential tool for managing these events. Such models are also important for providing timely food aid to developing countries, which experience increased occurrence of acute toxicities, especially in children. Chronic contamination of silage in some areas with some *Penicillium* toxins deserves more attention in terms of their economic effects and possible implications for the purity of milk.

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Resource Description

Early Warning System: ☒

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☒

weather or climate related pathway by which climate change affects health

Food/Water Quality

Food/Water Quality: Biotoxin/Algal Bloom

Geographic Feature: ☒

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☒

resource focuses on specific location

Climate Change and Human Health Literature Portal

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Other Health Impact

Other Health Impact: mycotoxins

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

Model/Methodology:

type of model used or methodology development is a focus of resource

Methodology

Population of Concern: A focus of content

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified